



PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 09/917,243

Filing Date: July 27, 2001

Applicant: NISHIKAWA et al

Group Art Unit: Not yet assigned

Examiner: Not yet assigned

Title: MICROLENS ARRAY, METHOD FOR FABRICATING  
THE SAME, AND OPTICAL DEVICES

Attorney Docket: 9319S-000256

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Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Sir:

Prior to the examination of this application, please amend it as follows:

**IN THE SPECIFICATION**

Please replace the following paragraphs of the specification. Applicant includes herewith an Attachment for Specification Amendments showing a marked up version of each replacement paragraph.

**[0001] FIELD OF THE INVENTION**

**[0003] DESCRIPTION OF THE RELATED ART**

**[0007] SUMMARY OF THE INVENTION**

**[0035] DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

**[0127]** The microlens array substrate 2 (see Fig. 3) can be fabricated by using this master plate 210 and by applying the processes described above. In this case, the details described above can also be applied here. The entire disclosure of Japanese Patent Application 2000-226675, filed July 27, 2000 is herein incorporated by reference.

**IN THE CLAIMS**

Please amend the claims in accordance with the following rewritten claims in clean form. Applicant includes herewith an Attachment for Claim Amendments showing a marked up version of each amended claim.

5. (Amended) The method for fabricating the microlens array according to claim 1, wherein said light transmitting layer precursor includes a substance which can be cured by applying energy.

7. (Amended) The method for fabricating the microlens array according to claim 1, wherein said light transmitting layer precursor is made of a resin.

8. (Amended) A microlens array fabricated by the method according to claim 1.

Please add the following new claims.

12. (New) A method for fabricating a microlens array comprising:

forming a plurality of microlenses on a substrate;

disposing a light transmitting layer precursor onto said substrate;

disposing a flat reinforcing plate onto said light transmitting layer precursor

to disperse said light transmitting layer precursor over said microlenses of said

substrate;

curing said light transmitting layer precursor in order to form a light transmitting layer; and

removing said reinforcing plate from said light transmitting layer so that said light transmitting layer contains a flat surface.

13. (New) A method for fabricating a microlens array comprising:

producing a master plate for fabricating a microlens array substrate,

wherein a first substrate is etched to form curved surface parts;

producing an intermediate plate, wherein an intermediate plate precursor is disposed onto said master plate and a first reinforcing plate is brought into contact with said master plate so as to disperse said intermediate plate precursor over said curved surface parts;

thereafter curing said intermediate plate precursor and removing said master plate;

producing a replica plate from said intermediate plate, wherein a metal film is deposited onto said intermediate plate so as to be a conductor for further forming a metal layer;

thereafter removing said metal film and metal layer from said intermediate plate;

producing a light transmitting layer, wherein a light transmitting layer precursor is disposed onto said replica plate and a second reinforcing plate is brought into contact with said replica plate so as to disperse said light transmitting layer precursor over curved surface parts of said replica plate; and

thereafter curing said light transmitting layer precursor and removing said replica plate.

14. (New) A method according to claim 13, wherein the curved surface parts are one of concave and convex.

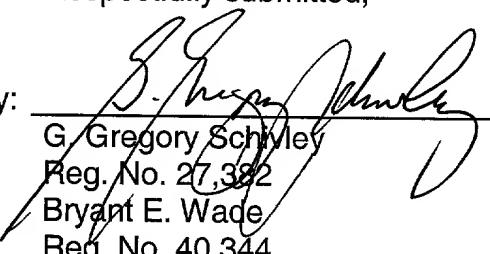
## CONCLUSION

The purpose of this Preliminary Amendment is to clarify the translation, amend claims and to add new claims. Favorable consideration of this application is respectfully requested.

Dated: Nov 5, 2001

Respectfully submitted,

By:

  
G. Gregory Schmley  
Reg. No. 27,382  
Bryant E. Wade  
Reg. No. 40,344

HARNESS, Dickey & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600

GGS/BEW/jah

## ATTACHMENT FOR SPECIFICATION AMENDMENTS

The following is a marked up version of each replacement paragraph and/or section of the specification in which underlines indicates insertions and brackets indicate deletions.

[0001] [TECHNICAL] FIELD OF THE INVENTION

[0003] [BACKGROUND] DESCRIPTION OF THE RELATED ART

[0007] [DISCLOSURE] SUMMARY OF THE INVENTION

[0035] [BEST MODE FOR CARRYING OUT THE INVENTION] DETAILED  
DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0127] The microlens array substrate 2 (see Fig. 3) can be fabricated by using this master plate 210 and by applying the processes described above. In this case, the details described above can also be applied here. The entire disclosure of Japanese Patent Application 2000-226675, filed July 27, 2000 is herein incorporated by reference.

## **ATTACHMENT FOR CLAIM AMENDMENTS**

The following is a marked up version of each amended claim in which underlines indicates insertions and brackets indicate deletions.

5. (Amended) The method for fabricating the microlens array according to [any one of claims] claim 1 [to 4], wherein said light transmitting layer precursor includes a substance which can be cured by applying energy.

7. (Amended) The method for fabricating the microlens array according to [any one of claims] claim 1 [to 6], wherein said light transmitting layer precursor is made of a resin.

8. (Amended) A microlens array fabricated by the method according to [any one of claims] claim 1 [to 7].